84168-3

NO. 27652-0-III

IN THE COURT OF APPEALS
OF THE STATE OF WASHINGTON
DIVISION III

LARRY MICHAELS, and DEBBIE MICHAELS, husband and wife and the marital community comprised thereof;

DAN P. EVANS, a single person; and

KATHY D. CMOS, individually, and as Administratrix and Representative of the Estate of Mike P. Cmos, Jr.;

Respondents,

v.

CH2M HILL, INC., a Florida corporation and KELLY IRVING,

Appellants.

BRIEF OF RESPONDENT CMOS

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I. INTRODUCTION

This is a professional negligence case in which plaintiff claims and the trial court found that the defendants' failure to exercise the applicable engineering standard of care in modifying a complex industrial piping system was a cause of Mike Cmos' death. Plaintiff does not claim that defendants had a duty to protect Mike Cmos from the negligence of his own employer, had a duty to insure worksite safety practices, or had supervisory authority over the worksite.

CH2M Hill, Inc., ("CH2M") contracted with the City of Spokane ("the City") to provide management and engineering services for a series of improvements at the City's wastewater treatment plant. CH2M designed digester recirculation piping modifications but failed to analyze the effects of its modifications on plant operations.

The City plant supervisors accepted CH2M's recommendation to install the piping modifications. Unbeknown to either CH2M or the plant supervisors, CH2M's modifications required a change in the valving procedure that plant operators used to transfer sludge from one digester to another digester. Since no one understood that the modification would affect sludge transfers, no training and no revised operating procedures were provided to the plant operators. The piping modifications were installed on May 4 and 5, 2004.

At 1:30 to 2:00 p.m. on May 10, 2004, the system that measured the depth of sludge in the digesters (SCADA) alerted plant operators that more sludge had been transferred into Digester 3 ("D3") than the operators had intended. Unbeknown to the operators, SCADA was malfunctioning, and significantly underreported the actual depth of sludge in D3. The operators had not been provided training or a new operating procedure regarding the effects of the piping modifications, so they tried to figure out how to transfer sludge out of D3. This was the first time since the piping modifications that any operator had attempted to transfer sludge out of D3 using the modified recirculation piping.

The operators believed they had correctly set up a new valving method to transfer sludge out of D3. They were wrong. Sludge continued to fill D3, and no sludge transferred out of the digester. At approximately 3:10 p.m., D3 erupted; the dome lifted off of the digester walls and collapsed. Mike Cmos fell into the digester and drowned in the sewage.

At trial, plaintiffs presented testimony from engineers that CH2M had a duty to analyze the effect on plant operations of its recommended piping modifications, communicate those operational effects to the City in writing, and ensure that training and operating procedures were provided to the operators showing the altered valving procedures for transferring sludge after the piping modification. The experts testified that if written

procedures setting forth the necessary valving changes for sludge transfers following the piping modification had been provided to the plant operators, the dome collapse would have been prevented. The trial court entered judgment for Cmos, finding that CH2M's negligence in modifying the digester recirculation system was a proximate cause of Mike Cmos' death.

II. STATEMENT OF THE CASE

In 1998, CH2M[1] and the City entered into a Standard Consultant Agreement. Ex 1. The Agreement describes CH2M's scope of services to include overall program management, design management and program engineering, which includes conceptual design and preliminary design. Ex 1, Exhibit B, p. 1. The Standard Agreement includes the following:

> The Consultant (i.e., CH2M) hereby agrees to...defend at its own expense all claims, demands, or suits at law or equity arising from the consultant's negligence or breach of any of its obligations under this Agreement;... (Parenthetical added.) Ex 1, §XIII, p. 6.
>
> STANDARD OF CARE. The standard of care applicable to consultant's services will be the degree of skill and diligence normally employed by professional engineers or consultants performing the same or similar services at the time said services are performed.... Ex 1, Exhibit I, §A; RP 1406-07.

[1] CH2M is one of a handful of companies under the umbrella of CH2M Hill Limited. CH2M has approximately 19,300 employee owners and maintains hundreds of offices all over the world. RP 1797-98.

CH2M maintained a full-time project management office at the plant. RP 1397-98. Kelly Irving ("Irving") is a CH2M engineer assigned to the project management office at the treatment plant since February, 1999. RP 509-10, 563. In May, 2004, Irving was the program manager for CH2M at the treatment plant. RP 510. Irving described his duties as follows: to manage the program, manage all design projects, manage all change, and assist the City with plant operational problems. RP 513-14.

Irving prepared Work Modification No. 7, dated March 11, 2003, which, pursuant to Amendment No. 6, amended CH2M's contract with the City. Ex 4, 5; RP 548[2]; unchallenged Finding of Fact (FOF) 16. That modification amended CH2M's scope of services by adding a project to manage and design an upgrade to the digester recirculation system and provide "on call" assistance with plant operations. Ex 4, §16; RP 548-549. The modification listed reasons for upgrading the digester recirculation system, including a significant decrease in the temperature of the sludge in the digesters, and problems created in the digester recirculation system as a result of thicker sludge coming off the gravity belt thickeners ("GBTs"), (Ex 4, §16; RP 549-50) a system that CH2M had earlier designed. RP

[2] At trial, plaintiffs read into evidence portions of Irving's depositions. RP 509-73. Most of the deposition exhibits were admitted as trial exhibits, but the deposition and trial exhibit numbers are different. E.g., deposition Ex 160 is trial Ex 4. At RP 572-73, plaintiff's attorney correlated the deposition and trial exhibit numbers. Respondent's brief will only refer to the trial exhibit numbers.

1689.

November and December, 2003, meeting minutes track the beginning and progress of CH2M's digester recirculation design project. Ex 6, p. 2; Ex 7, p. 2; Ex 8, p. 2; Ex 9, p. 2. As part of that project, on December 15, 2003, Irving and the CH2M team member assigned to design the mechanical piping conducted a walk-through inspection of the treatment plant digester area. RP 1722-23; Ex 10. At the time of that inspection, Irving knew the primary method that operators used on a daily basis to transfer sludge between digesters was by using the recirculation system pumps. RP 550-51; Ex 10, pp. 1-2, DIGESTERS, ¶¶6, 7.

Irving and other CH2M engineers prepared a Technical Memorandum dated February 23, 2004, concerning the conceptual design for the digester recirculation system, and noted that the digester heating system was experiencing problems maintaining the proper digester temperature and that the treatment plant staff had occasional problems with excessive foam buildup in the digesters. RP 551-52; Ex 11, pp. 1-3. The memorandum confirmed the fact that plant operators used the recirculation system pumps on a daily basis to transfer sludge between digesters, and that the gravity transfer system was infrequently used for sludge transfers. RP 552-54; Ex 11, pp. 2-4.

Irving was the project manager for the design team CH2M

assembled to upgrade the digester recirculation system. RP 1722-23, 1765; Ex 14. CH2M's recirculation system design team and their consultants discussed the design project at weekly meetings, which did not usually include City employees. RP 541-42. By March 24, 2004, CH2M had completed the digester recirculation system conceptual design and was prepared to move into the final design phase. Ex 13. The agenda for the March 31 recirculation design meeting listed bullet points, including "Heating Strategy" and "Biosolids Transfer."[3] Ex 15. Twelve days before the dome collapse, Irving attended a design team meeting where minutes were entered stating: "...piping mods will be done so digester recirc and digester feed do not go through same pipe to enter digester." RP 542-43; April 28, 2004 design meeting minutes, Ex 16 p. 1.

On May 3, 2004, one week before the dome collapse, Irving and CH2M engineer Dave Reynolds attended meetings with the plant supervisors to discuss digester problems, including the inability to maintain high enough temperatures in the digesters. RP 514-16, 1835-36; Ex 18, 19. Reynolds typically came to Spokane every two weeks to meet with Irving and plant operations staff to discuss design projects. RP 1833, 1836, 1847. Plant supervisors in attendance at these May 3 meetings

[3] Biosolids are the same as sludge. (Compare Ex 10 references to sludge with Ex 11 references to biosolids.)

included plant superintendent Tim Pelton, maintenance supervisor John King, operations supervisor Mike Gavin and lab supervisor Mike Coster. Ex 18, 19; RP 577-78, 1108, 1110-11, 1839-41, 1863.

Irving recommended installing a valve in the digester piping to separate sludge flows and provide different digester entry points for heated recirculated sludge and colder fresh sludge, to increase digester temperature. RP 535-36, 577-78, 1108-09, 1677-79, 1841-42, 2147-49. City plant staff suggested using a metal plate, also called a "blind flange," a "blank flange" or a "skillet," instead of the valve proposed by Irving, because it would be easier and less expensive to install. RP 523, 1081-82, 1530-32, 1576-78, 1863. Installation of a skillet instead of a valve in the digester piping served the identical function, i.e., separation of the sludge flows. RP 523-24, 1576-78, 1624-25, 1864-65. Irving had no objection to substituting a skillet for a valve to separate the sludge flows, and had no preference for the use of a valve as opposed to a skillet. RP 523-24, 1624.

Irving prepared a summary of the first plant supervisors' meeting he attended on May 3, 2004, which includes a heading entitled "Change Management," a term that CH2M uses to manage change in its contract with the City. Ex 18, p. 2; RP 525. Under the Change Management heading is a "HIGH Priority" item which Irving described as "digester recirc piping reroute." Ex 18, p. 2; RP 526. The inclusion of that item

under the Change Management heading means the "digester recirc piping reroute" is a CH2M task. RP 526-27, 1757-61. The "digester recirc piping reroute" task referred to in Irving's May 3 summary was the same task that had been described earlier as "...piping mods will be done so digester recirc and digester feed do not go through same pipe to enter digester" in the April 28 CH2M design team meeting minutes. RP 1755-57; Ex 16, 18.

Irving prepared the following notes from a later meeting on May 3 that he attended with Reynolds and the plant supervisors:

> 5/4 & 5/5—Add skillet plates in digester recirc. piping to separate digester feed entering digesters from recirculated biosolids entering digester.

Ex 19, p. 1; RP 527-30. Irving's understanding on May 3 was that the skillets would be installed on May 4 and 5, 2004. RP 529-30, 535.

Irving testified that he "vaguely" recalls going to look at the digester piping with Reynolds and plant employees on May 3, but claims that he does not remember the reason for inspecting the piping, that he does not remember suggesting a location for the installation of the valves in the recirculation piping, (RP 517-18) and insists that he did not know before the May 10 dome collapse the specific location where the skillets were installed. RP 519, 530, 534-35. Irving testified, "And I did not tell them where to put a valve. I did not tell them where to modify their piping." RP 535.

Other witnesses contradicted Irving. Reynolds testified that on May 3, 2004, he, Irving, and King inspected the digester piping on different floors in the digester building, and that Irving said "...here's a place that we could put a valve...," and "...if we put a valve at this location, you know, we can essentially isolate the two,..." referring to the location of a valve in the digester piping to separate the sludge flows. RP 1835-36, 1841-43.

Brad Vanwert was a senior maintenance mechanic employed at the treatment plant in May, 2004. RP 418, CP 1564-65. Vanwert signed a declaration and testified as follows: Vanwert was present at the 01 level of the digesters with King and Irving before the skillets were installed; King had a can of red spray paint, and asked Irving where he wanted the skillets installed in the piping; Irving pointed to a joint in the piping for each of the digesters where he wanted the skillets installed, and then King marked the joint in the piping with red paint where Irving wanted the skillet installed; Vanwert then assisted in separating the pipes at the joints that were marked with red paint and installed skillets in those joints. RP 419-21; CP 1565.

King signed a declaration setting forth the same recitation of facts regarding Irving's directing the location for the installation of valves in the digester piping as set forth in Vanwert's declaration. CP 1567-68; RP

1573-76. However, two days later, King signed a second declaration that appears to state Irving did not direct King where to install valves or skillets in the digester piping. CP 2129-30. At trial, answering questions from CH2M's lawyer in his direct testimony, King testified that he determined where to locate the skillets in the digester piping and he did not recall if Irving was present when he painted the piping. RP 1532-33. On cross examination by Cmos' lawyer, King initially testified that he did not recall if Irving was present when he painted the digester piping, then admitted Irving was present and showed King where to install the valve in the piping, but then testified Irving was not present when King spray painted the piping. RP 1571-73. King admitted at trial that he had signed the declaration stating Irving was present and directed King where to install valves in the digester piping and that King then marked the piping with red paint where Irving wanted the valves installed. RP 1573-76.

In an interrogatory answer, CH2M described the May 3 meetings:

> Kelly Irving and Dave Reynolds attended a May 3, 2004 meeting with plant supervisors, in which the concept of modifying the flow path of sludge into the digester was discussed. Mr. Reynolds recalls that a group of people, including Reynolds, Irving, King and Pelton went to look at the digester piping. Mr. Irving suggested the use of a valve to potentially separate the raw sludge feed from the re-circulating biosolids on a temporary basis until the CH2M Hill design for a modified recirculation system was finalized.

RP 505-7, 515-17. King described the installation of a valve in the digester piping as an "engineering idea," a "piping design," that came from CH2M. RP 1576-78. Coster stated Irving came up with the idea of separating the sludge flows by blanking off a line at each of the digesters. RP 1108-9; Ex 23. The Spokane Fire Department conducted post-accident interviews on May 11 and 13, 2004, and reported that Irving stated CH2M made the recommendation to add a blank flange to the digester piping to separate the sludge flows. Ex 57, p. 3.

The piping modification to separate sludge flows first reported in CH2M's April 28, 2004 design team meeting minutes and then recommended by Irving at the May 3 plant supervisors meeting, was an interim design change to a complicated piping system that had to remain operational. CP 3112-13, unchallenged FOF 28. This recommendation constituted engineering services provided to the City by CH2M. CP 3112-13, unchallenged FOF 24, 25, 28.

Irving admitted he had no concern and gave no thought whatsoever about the effect the skillets would have on the method the operators customarily used to transfer sludge between digesters. RP 535-36. Irving did not know or evaluate whether the installation of the skillets would affect valving sludge transfers between digesters. RP 539-41, 566-67, 569-70, 1739-40. Reynolds did not know, and did not investigate,

whether the installation of the skillets would affect sludge transfers. RP 1865. Irving did not tell anyone to advise the plant operators regarding the installation of the skillets and the effect the installation of the skillets would have on the method they customarily used to transfer sludge between digesters, and did not tell anyone to prepare a new standard operating procedure after the installation of the skillets. RP 539-40. The plant supervisors who attended the May 3, 2004, meetings with CH2M did not understand or appreciate that installation of the skillets would affect the manner in which the plant operators transferred sludge. RP 235-37, 482-83, 578, 1110-13, 1570-71, 1686-87, 1921-23, 2174-77.

King contradicted himself regarding his purported knowledge of the effect of the skillet installation on the valving operations for transferring sludge between digesters. In pretrial deposition, King was asked how the skillets affected valving for sludge transfers, and answered, "It really didn't change the transferring valving. All it changed was the feed valving. Which they normally never touched." RP 1570-71. At trial, King reversed course and testified that the installation of the skillets did change the valving the operators used to make a sludge transfer, (RP 1569) and that he showed operations supervisor Gavin and operators Headley, Fletcher, Knox, and others how to valve differently to make sludge transfers after the skillet installation. RP 1553-56, 1569-70, 1630-

31. However, Gavin, Headley, Fletcher and Knox all testified that neither King nor anyone else ever provided them with any information or training for the altered valving required for sludge transfers after the skillet installation. RP 578-83, 793, 804-5, 906, 1785-86. Furthermore, Irving testified that King told him the installation of the skillets had no effect on the operators' valving for sludge transfers. RP 566, 571-72. The trial judge found that King's testimony on this issue was not reliable. CP 3117, unchallenged FOFs 42, 50.

CH2M's wastewater engineering experts, Blake Anderson and Craig Chambers, concluded that Irving and all of the City plant supervisors left the May 3 meeting with the understanding that the skillets would be installed and that the skillets had no effect on sludge transfers. RP 1921-23, 2174-77. Irving's agenda for the May 5 CH2M weekly digester recirculation system design meeting states "piping mods done," which refers to the installation of the skillets in the digester recirculation piping on May 4 and 5, 2004. RP 545-46; Ex 22, p. 1.

Since the treatment plant supervisors did not know that the skillet installation required a change in the valving method for sludge transfers, the operators were not informed that the skillet installation would require a change in their transfer method. RP 579-82. When operations supervisor Gavin provided information to the operators that the skillets had been

installed, he did not understand that the installation of the skillets would require a change in the valving method for sludge transfers, and he did not expect his operators would realize that installation of the skillets would require a change in their valving method. RP 578-83. Gavin did not provide the operators with any information, training, or written standard operating procedures regarding how to perform a transfer of sludge between digesters after the skillet installation. RP 578-82. If Gavin had been advised that the skillet installation affected the valving for sludge transfers, he would have provided written information to his operators so they would be able to transfer sludge and control the level of sludge in the digesters. RP 587.

In fact, the installation of the skillets did change the method the operators customarily used to transfer sludge between digesters; after the skillet installation, a different valve had to be turned to transfer sludge between digesters than the valve that had been previously used to transfer sludge. RP 193, 214-15, 635, 846, 849-50, 872-73, 903-6, 916, 956-57, 971-72, 1466-69, 1480-83, 1927, 2180.[4]

In the morning plant supervisors' meeting on May 10, 2004, King

[4] CH2M states, "The trial court failed to make a specific finding that the skillets actually changed the transfer-valving configuration for D3, though some of its findings seem to so imply." App. Opening Brief, p. 36. The trial court's findings of fact 40, 42, 43, and 48 all refer to the fact that the skillets changed the valving used by the operators for pumped transfers of sludge between digesters. CP 3115-16.

said that he wanted to transfer sludge out of D2 and into D3 until the sludge level in D2 got down to 20 feet. RP 583; Ex 25. At the time of the meeting, SCADA indicated there was approximately 22 feet of sludge in D2, and 26 feet of sludge in D3. RP 1560-62; Ex 70, p. 3. Gavin gave a written directive to his operator III, Terry Headley, to take D2 down to 20 feet by transferring to D3. RP 584, Ex 555. At 1:30 p.m., SCADA indicated D2 was not yet down to 20 feet, but there was almost 32 feet of sludge in D3. RP 822, 835; Ex 70, p. 5.[5]

At approximately 1:30 to 2:00 p.m., the operators became aware that foam was leaking out of pressure relief valves on top of D3, and Headley told his shift operators, Rick Thain and Terry Fletcher, to stop the ongoing sludge transfer from D2 to D3. RP 821, 835, 848, 899-900. Headley then told his operators to reverse the transfer, and initiate a sludge transfer from D3 to D2. RP 792, 835, 848-49, 902. Headley, Thain and Fletcher knew the skillets had been installed, (RP 792-93, 845, 903) but had not been told the skillet installation required a change in valving for sludge transfers between digesters, and had not been provided with any instructions or training for the transfer method operators would have to

[5] CH2M criticizes the operators for exceeding King's 28 foot "standing order" for maximum sludge depth. The 28 foot guideline was not adopted due to concern for the operators' safety, but rather was intended to prevent foam from getting into the gas recirculation system. RP 600. This guideline frequently changed and was exceeded for operational reasons. RP 790, 980-81.

use after the skillet installation. RP 793-94, 811, 846, 906. Headley, Thain and Fletcher discussed how they should set up a new valving procedure to transfer sludge from D3 to D2 with the skillets installed. RP 788, 794-95, 849-50, 873, 903-4; Ex 55. This was the first time any operator had attempted to transfer sludge out of D3 using the recirculation system pumps since the skillet installation. RP 472-77, 792-95, 830-32, 839-40; Ex 24, 55; CP 3116, unchallenged FOF 45.[6]

Headley did not know whether the installation of the skillets required the operators to use a different valving method to transfer sludge. RP 793, 803-6. Thain and Fletcher realized they would have to set up a different valving method to transfer sludge out of D3. RP 850, 906. Headley, Thain and Fletcher walked through the plant and traced the lines, to see which lines went to which digesters and to see which way the sludge should go. RP 872-73, 903-4, 913-14. In their attempt to transfer sludge out of D3, the operators turned a 3-port valve on the 17 level, and then went downstairs and closed another valve on the 01 level "just to make sure." RP 902-3. Before the installation of the skillets, Fletcher had never used this 3-port valve to transfer sludge, (RP 903) and neither of these valves was customarily used in valving a sludge transfer. RP 828-29;

[6] Operators had transferred sludge out of D2 using recirculation pumps since the skillet installation, but D2's piping was completely different than D3. RP 192-93, 477.

CP 3118, unchallenged FOF 53. After setting up their valving, the operators double checked their work, (RP 851, 904, 915-16) and thought they had set up the valving correctly to transfer sludge out of D3. RP 849-50, 873-74, 914, 918-19.

Thain and Fletcher then proceeded with their usual end-of-work shift tasks elsewhere in the plant. RP 851, 923-24. Fletcher was not concerned that foam continued to leak out of the pressure relief valves because he knew it would take about a half hour after the transfer started for the foaming to settle down, and he did not believe they had overfilled D3. RP 907-8, 921. He was not concerned about SCADA indicating there was 30 feet of sludge in D3 because from his experience he knew the foaming caused the measurement gauges to read inaccurately. RP 907-8, 924. Thain did not believe the situation was an emergency, (RP 871, 881) and although SCADA eventually indicated there was over 32 feet of sludge in D3, by then the operators thought they had already started the transfer of sludge out of D3. RP 880. Believing they had correctly set up the valving, they were not looking for any other way to transfer sludge out of D3. RP 851.

Headley wrote a report of the May 10 occurrence:

> 5-10-04
> ...200 run Secured 2-3 Tran Tran slow not at 20' #2 Dig
> Dig levels climbing #3 26-28' at 130

> 200 had Rick Thain Terry Fletcher start Immed Tran from 3 to #2 Dig They set up new tran not done before new valving procedure...
> Took Mike Gavin out behind Dig at 200 showed him sludge coming out pop offs off roof (Foam)
> 230 Back up counsol levels climbing still Larry had counsol as Fletcher if valved properly He said (Transfer) yes asked second time level 31' he said Foam

RP 788-89, 794, 837-38; Ex 55.

Operator Robert Hetnar arrived at work on May 10 at approximately 2:45 p.m. and went to the control room where he saw SCADA indicating there was 34 feet of sludge in D3. RP 957-58. Headley advised Hetnar that they were transferring sludge out of D3 and took Hetnar to show him how the transfer had been valved. RP 827-28, 957-58. Headley took Hetnar to the 17 level and showed him the position of the 3-port valve, which Hetnar observed was turned in a direction which would prevent any transfer of sludge out of D3. RP 958-59. Before the installation of the skillets, that 3-port valve was never used by Hetnar, and Hetnar never observed any other operator use that valve to transfer sludge out of D3. RP 993-94. Headley then took Hetnar downstairs to the 01 level and showed Hetnar the valve that had been closed by Fletcher. RP 827-29, 959. Hetnar realized the combination of the position of the 3-port valve on the 17 level and the closed valve on the 01 level had caused a "dead head" in the sludge recirculation, and there was no sludge transferring out of D3.

RP 959. As Hetnar approached the closed valve on the 01 level, the digester blew up. RP 959.

At approximately 2:50 p.m. on May 10, shortly before the digester dome collapse, superintendent Pelton was told that foam was leaking out of the pressure relief valves on D3, went to the digester and saw the foam coming out of the valves and running down the side of D3. RP 1118-19. Pelton wanted to divert the sludge foam so it did not go into the river and devised a plan to run a hose from the dome of D3 to a drain. RP 1119-20. Pelton recruited Mike Cmos, Dan Evans, and Larry Michaels to assist him. RP 1113-1114, 1119-20. Cmos and Evans took the hose and climbed up onto the digester. RP 1025-29, 1113-14. Pelton and Michaels guided the other end of the hose to a drain. RP 1119-20, 1163-69. Suddenly, the digester dome lifted and a wall of sludge erupted. RP 1121. Cmos was last seen hanging onto a railing on the D3 dome when the dome lifted a second time and fractured, dumping Cmos into the digester. RP 1121-22. Pelton was not aware that D3 was overfilled and did not believe it was dangerous or unsafe in any way for Evans or Cmos to be on top of the dome. RP 1113-14, 1120-21.

The City hired an engineering company, Exponent, to conduct a failure analysis and determine the cause of the dome collapse. RP 162, 623-24, 636. Exponent is an engineering consulting firm with extensive

experience in failure analysis. RP 620-23. Exponent's investigation included multiple on-site visits, (RP 164-65, 637-39) interviews, (RP 163-64) document review (Ex 71, pp. 60-61; RP 163-64, 637-38) and scientific testing. RP 187-88. That investigation culminated in a 77-page report published in December, 2004. Ex 71; RP 635-36. The report sets forth three primary contributors to the failure of the digester: 1) the absence of any functioning overflow system; 2) inaccurate data from SCADA regarding the depth of sludge in D3; and 3) the inability of the operators, despite their attempts, to effectuate a transfer of sludge out of D3. Ex 71, pp. 63-64, ¶3.2; RP 185, 252-53, 663-67. The authors noted that skillets had been installed in the recirculation piping which required the operators to make changes in valving in order to transfer sludge from one digester to another digester, which caused confusion among the operators during their attempt to transfer sludge in the one and one-half hour period before the dome collapse. Ex 71, pp. 63-64, 66-67. Exponent found that valves were set in the wrong positions to accomplish a transfer of sludge out of D3 before the dome collapse. Ex 71, p. 67.

At trial, plaintiffs presented expert testimony regarding the applicable engineering standard of care, breach of that standard, and proximate cause from Gary Brugger, P.E., Piotr Moncarz, Ph.D., P.E., and Richard Gill, Ph.D. Brugger and Moncarz were authors and lead

investigators for the Exponent report prepared for the City in 2004. Ex 71; RP 162-64, 635-36, 678-79. Brugger is a licensed engineer with experience in wastewater treatment plant design, (RP 156, 158-59, 221) and Moncarz is an engineer with expertise in structural engineering and project management. RP 620, 624-26. Gill is an engineer with a specialty in human factors and systems engineering. RP 1422-30. The defendants presented expert engineering testimony from Blake Anderson and Craig Chambers, engineers with background in wastewater engineering. RP 1867-78, 2061-66.

The plaintiff and defense experts agreed the installation of the skillets required a change in the method the operators customarily used to transfer sludge between digesters. RP 190-91, 193-205, 214-15, 1466-68, 1480-83, 1905-9, 1927, 2118-19; Ex 176 A-D. The plaintiff and defense experts also agreed that before the skillet installation, the 3-port valve on level 17 was not used by operators to transfer sludge between digesters, (RP 214-15, 1908, 2123) and that on May 10, 2004, the operators failed in their attempt to transfer sludge out of D3 because they set the 3-port valve on level 17 in an incorrect position. RP 191, 206-7, 209, 239-40, 247-48, 414, 1449-50, 1468-69, 1937-39, 2100-1, 2122; Ex 176 E; see also CP 3118, unchallenged FOF 55.

All of the plaintiff and defense engineering experts agreed that the

applicable standard of care for Irving and CH2M was the degree of skill and diligence employed by a reasonably prudent professional engineer in the state of Washington providing engineering services under the same or similar circumstances. RP 453-55, 648-50, 1444-46, 1887, 1946, 2108-9, 2146.[7]

Plaintiffs' experts testified the standard of care required CH2M and Irving to perform an engineering analysis to determine any effect on plant procedures and digester operations caused by the skillet installation, (RP 258, 267, 648-53, 657-58, 731, 1443-45, 1447-48, 1452-53) regardless of whether Irving was involved in designating the actual skillet location. RP 652-53. CH2M's expert engineer Anderson agreed that Irving had a duty to analyze whether the skillet installation affected the operators' ability to transfer sludge between digesters. RP 2148-49, 2168-73. Plaintiffs' experts testified that CH2M's performance of such an analysis is a duty which an engineer cannot delegate or transfer to someone who is not an engineer, including maintenance supervisor King. RP 260, 737-38, 743-44, 1458-60. The engineering standard of care required CH2M and Irving to conduct such an analysis even if the City did

[7] Curiously, CH2M assigned error to FOF 37, which sets forth this standard of care. App. Opening Br. p. 2. Not only did CH2M's experts agree this was the applicable standard of care, but Irving also agreed. RP 1807. Further, CH2M argued in its trial brief, (CP 2889) and in closing argument that this was the applicable standard of care. RP 2268.

not request the analysis or told CH2M not to conduct the analysis. RP 260, 654-56, 676-77.

Once the required analysis was completed, CH2M and Irving had a duty to convey that information in writing to the City, so the City would be aware that the installation of the skillets affected valving operations for sludge transfers. RP 258-59, 267, 657-60, 745-48, 1452-53, 1479. Plaintiffs' experts testified that the standard of care required CH2M to insure that training was provided to plant operators concerning the valving changes required by the skillet installation, (RP 258-59, 1450-51, 1462) and that written standard operating procedures setting forth the necessary valving changes after the skillet installation were provided to the City. RP 657-60, 749-50, 1447, 1450-51, 1453-54, 1458, 1478-79. Finally, the standard of care required CH2M to verify that the plant operators understood the valving changes necessitated by the skillet installation. RP 258-59, 267, 1479, 1483-85.

Plaintiffs' experts testified that Irving and CH2M failed to comply with the applicable engineering standard of care. RP 259, 661, 731, 1445-47, 1449.

Dr. Moncarz testified that the dome collapsed because D3 was filled with sludge which lifted the dome off the digester, causing the dome to break and collapse. RP 662, 680-81. If the plant operators had

succeeded in their attempt to transfer sludge out of D3, the dome would not have collapsed. RP 189-90, 661-62, 672, 675-76. Defense experts Chambers and Anderson agreed that if the operators had succeeded in initiating a sludge transfer, the dome collapse would have been averted. RP 1933, 2160-61. The Exponent report's authors testified that even with the inaccurate SCADA and blocked overflow, the dome would not have collapsed if the operators had succeeded in their attempt to transfer sludge out of D3. RP 190, 261-63, 671-72, 675-76.

Plaintiffs' engineering experts testified that if CH2M had complied with the applicable standard of care, CH2M would have learned that the skillet installation required valving changes for sludge transfers, (RP 258-61) the plant operators would have succeeded in their attempt to transfer sludge out of D3, (RP 260-61) and D3 would not have collapsed and caused the plaintiffs' injuries and death. RP 260-61, 1449-52. Defense expert Chambers testified that providing a written operating procedure to the plant operators setting forth the valving changes required by the skillet installation may have lessened the operators' confusion in attempting a sludge transfer, (RP 1932-33) and Anderson testified that if the operators were given training and a written standard operating procedure they probably would have been able to transfer sludge out of D3 on May 10, 2004. RP 2180-81, 2187.

III. ARGUMENT

A. RCW 51.24.035 – Immunity Statute

CH2M seeks immunity under RCW 51.24.035, which provides, in relevant part, as follows:

> (1) Notwithstanding RCW 51.24.030(1), the injured worker or beneficiary may not seek damages against a design professional who is a third person and who has been retained to perform professional services on a construction project, or any employee of a design professional who is assisting or representing the design professional in the performance of professional services on the site of the construction project, unless responsibility for safety practice is specifically assumed by contract, the provisions of which were mutually negotiated, or the design professional actually exercised control over the portion of the premises where the worker was injured.
>
> (2) The immunity provided by this section does not apply to the negligent preparation of design plans and specifications.

A person suffering personal injuries caused by the negligence of another has a fundamental, substantial property right to seek indemnity through a lawsuit. *Hunter v. North Mason Sch. Dist.,* 85 Wn.2d 810, 814, 539 P.2d 845 (1975); *see also State v. Vance,* 29 Wash. 435, 458, 70 P. 34 (1902) (fundamental rights of citizenship include "the rights to the usual remedies to collect debts, and to enforce other personal rights"). Statutes in derogation of common law rules of liability are strictly construed,

Matthews v. Elk Pioneer Days, 64 Wn. App. 433, 437-438, 824 P.2d 541, *review denied*, 119 Wn.2d 1011 (1992) and no intent to change the common law will be found unless it appears with clarity. *McNeal v. Allen*, 95 Wn.2d 265, 269, 621 P.2d 1285 (1980). Logically, when a statute in derogation of common law is strictly construed, statutory exceptions are broadly construed. *Interest of J.F.*, 109 Wn. App. 718, 733, 37 P.3d 1227 (2001); *see also, Ducey v. United States*, 713 F.2d 504, 511 (9th Cir. 1983) (applying Nevada law, the court holding that a recreational use statute is in derogation of common law, and consequently its exceptions "must be given the broadest reading that is within the fair intendment of the language used.")

There are no published Washington court decisions regarding the application of RCW 51.24.035. The Kansas Supreme Court has considered the application of a similar immunity statute, and the issue of what constitutes "the negligent preparation of design plans" which excepts an engineer's conduct from the immunity granted by the statute.[8] In *Edwards*

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[8] K.S.A. 2006 Supp. 44-501(f) provides:

> Except as provided in the Workers' Compensation Act, no construction design professional who is retained to perform professional services on a construction project or any employee of a construction design professional who is assisting or representing the construction design professional in the performance of professional services on the site of the construction project, shall be liable for any injury resulting from the employer's failure to comply with safety standards on the construction project for which compensation is recoverable under the Workers' Compensation Act, unless responsibility for safety practices is

v. Anderson Engineering, Inc., 284 Kan. 892, 166 P.3d 1047 (2007), a contractor installed sewer pipe which failed. Anderson Engineering was hired to test the pipe and needed the large concrete pipe cut into sections to conduct its testing. An Anderson engineer specified the location of the desired cut lines by marking on the pipe with a yellow marker. The contractor's employee, Edwards, stood on top of the concrete pipe to make a cut. The pipe split lengthwise and rolled, crushing Edwards.

Edwards' estate filed suit against Anderson Engineering. The trial court denied Anderson's summary judgment motion seeking statutory immunity, ruling that material issues of fact existed as to whether the statute's exception for "negligent preparation of design plans" applied. *Id.* at 1050-1051.

The Supreme Court held, as a matter of law, that the engineer's markings on the pipe with a yellow marker to specify the location of the desired cuts in the concrete pipe were "negligent preparation of design plans" within the meaning of the exception to the immunity statute:

> [Anderson Engineering] contends...that the markings on the concrete pipe were not design plans or specifications and that the case clearly presents a dispute over workplace safety practices, rather than an action for professional

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specifically assumed by contract. *The immunity provided by this subsection to any construction design professional shall not apply to the negligent preparation of design plans or specifications.* (Emphasis added.)

liability.

> As Anderson points out, the phrase "design plans and specifications" was not statutorily defined in the Workers' Compensation Act. It suggests that the common understanding in the construction industry is that those terms refer to blueprint drawings and written specifications for the quantity and quality of materials. Accordingly, Anderson concludes that the yellow marks on the concrete pipe do not fit within the plain meaning of design plans or specifications. We disagree.
>
> Anderson was charged with the responsibility of testing the pipe. In order to perform its professional responsibilities, Anderson required that the concrete pipe be cut into four pieces and gave specific directions on the location of the cut lines. We perceive no appreciable distinction between providing the specifications for pipe cutting through a professional drawing or by physically marking on the pipe. Therefore, we find that Anderson's markings on the concrete pipe were design plans or specifications within the purview of K.S.A. 2006 Supp. 44-501(f).

Id. at 1055. Just as in *Edwards,* Irving's participation in marking the piping joints for the installation of the valves/skillets constitutes the "negligent preparation of design plans" and is excepted from the immunity statute.

Significantly, unlike Anderson Engineering's limited activity in simply marking the concrete pipe in *Edwards*, Irving's conduct in marking the digester piping was the product of ongoing engineering design services that had started well before the May 3 visit to the digester piping gallery.

Unchallenged FOFs 24, 25 and 28 (CP 3112-13) establish that Irving's recommendation for the valve/skillet installation was an engineering design service provided pursuant to Work Modification No. 7 and Contract Amendment No. 6, and was an interim design change to a complicated piping system that had been initiated at least by April 28, 2004, in a CH2M design team meeting. Plaintiff's engineering experts testified that CH2M and Irving's interim design to separate the sludge flows constitutes engineering design, (RP 267, 648, 653-54, 1440-43, 1445-47) which started with the City's discussion of the digester temperature problem with CH2M and proceeded through CH2M's conceptual design and proposal for the interim solution by installing valves/skillets. RP 1445-47. Irving agreed that CH2M's modification to the City's digester recirculation system is a part of engineering design (RP 568) and agreed that the digester recirculation conceptual design is engineering design work. RP 1800-1. CH2M and Irving's liability arises out of the "negligent preparation of design plans" for the installation of valves/skillets in the digester piping, which was an interim measure in CH2M's ongoing recirculation redesign project, and is specifically excepted from the immunity statute under RCW 51.24.035 (2).[9]

[9] CH2M argues the absence of any written design plans makes the immunity exception inapplicable. App. Br. p. 45. This would lead to an absurd result inconsistent with the

In *Advanced Silicon v. Grant County,* 156 Wn.2d 84, 124 P.3d 294 (2005), the court discussed rules of statutory interpretation:

> The plain meaning of a statute "is discerned from all that the Legislature has said in the statute and related statutes which discloses legislative intent about the provision in question. We avoid readings of statutes that result in unlikely, absurd, or strained consequences."

156 Wn.2d at 89-90 (internal citations omitted).

The immunity for an engineer on a construction project under RCW 51.24.035 (1) is provided solely in the context of responsibility for worksite safety practice and control over the worksite premises. This immunity does not include conduct of an engineer unrelated to worksite safety practices or control of the worksite premises. The claims against CH2M are based upon negligent engineering design, not a general duty to enforce construction worksite safety, and are not foreclosed by the immunity statute.

Further, the temporal and spatial relationship between CH2M's negligent design and the plaintiffs' injuries demonstrate that CH2M's negligent engineering services were not "on a construction project" within the context of the statute. Pelton and Irving testified there was no

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broad construction afforded exceptions to statutory immunities. The trial court found CH2M negligent for failing to prepare a written analysis, which failure *is* "the negligent preparation of design plans." Otherwise, an engineer would be granted statutory immunity by negligently failing to prepare any written plans.

construction activity in the digester building where the skillets were installed. RP 564, 1114. The closest construction was several hundred feet away from the skillet installation. RP 1114-15. Unlike the injury to the worker in *Edwards,* no one was injured during the actual installation of the skillets in the digester piping. CH2M's interim design for the installation of the valves/skillet and the actual installation of the skillets was completed five days before the digester dome collapse, and the plaintiffs' injuries occurred a considerable distance away from the location of the skillet installation.

RCW 51.24.035 immunity does not apply where the plaintiffs' claims are unrelated to the violation of any worksite safety practices and the injury did not occur at the time and at the place where the skillets were installed in the digester piping system.

B. Duty

CH2M insists on defending a claim that has not been asserted. Cmos has not alleged or argued that CH2M had a duty to enforce worksite safety practices or had supervisory authority over the worksite. CP 5339-47, 1600-1, 2960, 2962. CH2M's claimed defenses to the breach of a duty to enforce worksite safety practices or to supervise the worksite to protect City employees are not relevant to the trial court's findings and conclusions. Rather, CH2M was found negligent in failing to comply with

the standard of care for an engineer designing an upgrade to a complicated piping system.

In *Wells v. Vancouver,* 77 Wn.2d 800, 467 P.2d 292 (1970), the Supreme Court approved a jury instruction setting forth the common law duty of an engineer:

> The issue as to whether defendant's conduct violated the duty imposed by common law was properly presented to the jury with an instruction stating that an engineer or designer is guilty of negligence if he fails to apply the skill and learning which is required of similarly situated engineers or designers in his community.

77 Wn.2d at 803.

In response to the argument that the engineer's designed building failed because of an unforeseeable windstorm, the court held that the foreseeability element of the duty issue is determined by the trier of fact. In determining the engineer's duty, it is for the trier of fact to decide whether a general field of danger should have been anticipated. *Id.* (citing *McLeod v. Grant County Sch. Dist. 128,* 42 Wn.2d 316, 255 P.2d 360 (1953)). In *Seattle Western Industries Inc. v. David A. Mowat Co.,* 110 Wn.2d 1, 10, 750 P.2d 245 (1988), the Supreme Court cited *Wells* and Restatement (Second) of Torts §299A (1965) in approving a jury instruction setting forth the common law duty of an engineer.

In *Evans v. Howard R. Green Co.,* 231 N.W.2d 907 (Iowa 1975),

plaintiff estates brought wrongful death suits against Green, an architectural and engineering firm. Green contracted to design improvements to a wastewater treatment plant. Plaintiffs' decedents' employer contracted to construct the plant improvements. *Id.* at 910. Six days before the accident, Green directed the decedents' employer to cut an opening in a wall in a sludge building to provide an overflow. Following construction of the overflow, decedents were overcome and died from exposure to hydrogen sulfide gas in the sludge building. The gas entered through windows opened to place electric lines into the sludge building to cut the overflow opening. An exhaust fan had been installed but was not yet operating. *Id.* at 910-11. The jury found Green was negligent in designing the project. *Id.* at 911.

In upholding the jury's verdict, the Iowa Supreme Court quoted favorably *McCarthy v. J.P. Cullen & Son Corp.,* 199 N.W.2d 362 (Iowa 1972):

> We cannot agree defendant architect can so easily wish off his duty to the public generally for harm resulting from negligence in furnishing plans and specifications which cause damage during the work itself. We reject the ingenious and startling theory that a person can, by contract with a third party, lay down his own rules as to when he would be liable to those whom his negligence injures.
>
> If defendant architect negligently prepared plans and specifications and if plaintiffs were thereby damaged, defendant architect—like everyone else—is responsible for

the consequences of that negligence.

231 N.W.2d at 912-13 (quoting from *McCarthy,* 199 N.W.2d at 370). The *Evans* decision further explains:

> Our view seems to be in accord with the law generally. We note and approve the following:
>
> "An architect may be held liable for negligence in failing to exercise the ordinary skill of his profession, which results in the erection of an unsafe structure *whereby anyone lawfully on the premises* is injured. An architect's liability for negligence resulting in personal injury or death may be based upon his supervisory activities or upon defects in the plans. The liability of the architect, moreover, is not limited to the owner who employed him; the modern view is that privity of contract is not a prerequisite to liability."

231 N.W.2d at 913 (quoting 5 Am. Jur. 2d Architects §25, p. 688) (emphasis added by court).

Green insisted it owed no duty in regard to its design to the construction contractor's employees. *Id.* at 913. The Supreme Court rejected this argument, holding that Green was aware the plant would be in operation during the construction, Green was involved in coordinating the construction with plant operation, Green's duty extended to all persons lawfully on the premises, and Green's duty was not obviated, as Green suggested, by any separate duty the construction contractor may have owed their decedent employees. *Id.*

In addition to alleging common law negligence in CH2M's

performance of engineering duties, Cmos alleged CH2M negligently performed duties assumed in CH2M's contract with the City. CP 5344, ¶¶XVI, XVII.[10] In *Leija v. Materne Bros., Inc.,* 34 Wn. App. 825, 664 P.2d 527 (1983), the plaintiff brought a wrongful death action, alleging causes of action for common law negligence and negligence based upon breach of contractual duties. *Id.* at 826-27. The court quoted a provision in the contract between the defendant and the State, providing that the defendant contractor shall be liable for injuries and damages to persons suffered by reason of the contractor's operations or any negligence. *Id.* at 828. In holding the decedent was entitled to the benefit of that contract, the court remanded the case to determine if the defendant breached the standard of care imposed by the contract. *Id.* at 530. The court quoted *Kelley v. Howard S. Wright Construction, Co.,* 90 Wn.2d 323, 334, 582 P.2d 500 (1978): "[A]n affirmative duty assumed by contract may create a liability to persons not party to the contract, where failure to properly perform the duty results in injury to them."[11]

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[10] CH2M quoted only the first sentence of a two sentence paragraph in the trial court's Findings and Conclusions. App. Br., p. 49, n. 24. The complete paragraph states:

> 3. Plaintiffs did not assert a cause of action against CH2M and Irving for breach of contract. However, Plaintiffs did allege CH2M and Irving assumed contractual duties which they performed negligently.

[11] CH2M cites *Alejandre v. Bull,* 159 Wn.2d 674, 681-82, 153 P.3d 864 (2007), for the proposition that "contractual duties may not be the basis for recovery of noneconomic damages." App. Br., p. 49. *Alejandre* concerns the "economic loss rule," which has no application to a personal injury action. 159 Wn.2d at 682-85.

Similarly, in its contract with the City, CH2M assumed duties to defend claims arising from its own negligence or breach of its contractual obligations, to apply the degree of skill and diligence normally employed by professional engineers under similar circumstances, and to design and manage an upgrade to and redesign of the digester recirculation system and provide "on-call" services for plant operations. Unchallenged FOFs 7, 8, 15, 16. The trial court entered unchallenged findings that CH2M was engaged in engineering services pursuant to the duties assumed in its contract with the City when it recommended the piping modifications as an interim design change to the recirculation system and as an "on-call" service to the City. Unchallenged FOFs 24, 25, 28

CH2M cites a host of inapposite cases in arguing it owed no duty to Cmos. Several of the cited cases stand for the proposition that there is no duty to protect others from an open and obvious or known hazard.[12] The basis for the engineering negligence claim here is CH2M's failure to analyze and inform the plant supervisors of the effects of the installation of the skillets, i.e., the requirement to change the valving for sludge transfers. The need to alter the valving procedure for sludge transfers was unknown to the plant supervisors, and how to change the valving was

[12] *Baugh v. Honda Motor Company,* 107 Wn.2d 127, 727 P.2d 655 (1986); *Zamora v. Mobile Oil Co.,* 104 Wn.2d 199, 704 P.2d 584 (1985); and *Seiber v. Poulsbo Marine Ctr., Inc.,* 136 Wn. App. 731, 150 P.3d 633 (2007).

unknown to the operators who attempted the transfer, and cannot constitute an obvious and open or known hazard.

CH2M's primary argument rests upon an analysis of cases where the plaintiff sought to impose a duty upon a defendant to protect the plaintiff from injury by the plaintiffs' own employer or a third party.[13] These cases concern claims by plaintiffs that a defendant had a duty to supervise overall worksite safety practices, or a defendant had a duty to protect the plaintiff from the plaintiff's employer's negligence, or the defendant had a duty to protect the plaintiff from the actions of a third party. None of these cases involve a claim by the plaintiff that the defendant had a duty to avoid endangering the plaintiff by the defendant's own negligence in creating a hazard. The out-of-state authorities cited by CH2M contain specific statements that the plaintiff made no claim, or was unable to prove, that the defendant had any role in creating a hazardous

[13] *Hertog v. City of Seattle,* 138 Wn.2d 265, 979 P.2d 400 (1999); *Folsom v. Burger King,* 135 Wn.2d 658, 958 P.2d 301 (1998); *Stute v. P.B.M.C., Inc.,* 114 Wn.2d 454, 788 P.2d 545 (1990); *Taylor v. Stevens County,* 111 Wn.2d 159, 759 P.2d 447 (1988); *Burg v. Shannon & Wilson, Inc.,* 110 Wn. App. 798, 43 P.3d 526 (2002); *Riggins v. Bechtel Power Corp.,* 44 Wn. App. 244, 722 P.2d 819, *review denied,* 107 Wn.2d 1003 (1986); *Porter v. Stevens, Thompson & Runyan, Inc.,* 24 Wn. App. 624, 602 P.2d 1192 (1979), *review denied,* 93 Wn.2d 1010 (1980); *Loyland v. Stone & Webster Eng'g Corp.,* 9 Wn. App. 682, 514 P.2d 184 (1973), *review denied,* 83 Wn.2d 1007 (1974); *Hobson v. Wagoner Eng'g, Inc.* 878 So.2d 68 (Miss. Ct. App. 2003); *Herczeg v. Hampton Twp. Mun. Auth.,* 766 A.2d 866 (Pa. Super. Ct. 2001); *Jones v. James Reeves Contractors, Inc.,* 701 So.2d 774 (Miss. 1997); *Peck v. Horrocks Eng'rs,* 106 F.3d 949 (10th Cir. 1997); Restatement (Second) of Torts §314.

condition: *Hobson,* 878 So.2d at 76-77; *Herczeg,* 766 A.2d at 872; *Jones,* 701 So.2d at 784; *Peck,* 106 F.3d at 954. Similarly, CH2M cites to Restatement (Second) §314, setting forth the duty to act for the protection of others. However, Comment *d* states that the rule applies only where the hazard to the plaintiff is not due to the active conduct of the defendant.

The distinction between Cmos' professional negligence claim against CH2M and the claims in the above-cited cases is the same distinction courts draw between a claim against a premises owner for injuring the employee of an independent contractor by the owner's own negligence, versus a claim that the premises owner owes a duty to protect the employee from his own employer's negligence:

> The general rule is that the owner of premises owes to the servant of the independent contractor employed to perform work on his premises the duty to avoid endangering him by his own negligence or affirmative act, but owes no duty to protect him from the negligence of his own master.

Hennig v. The Crosby Group, Inc., 116 Wn.2d 131, 133-34, 802 P.2d 790 (1991) (quoting from *Epperly v. City of Seattle,* 65 Wn.2d 777, 785, 399 P.2d 591 (1965)).

CH2M's liability is based upon its own negligence in creating a hazard to the workers at the treatment plant by designing an upgrade to the digester recirculation system. CH2M's failure to comply with the applicable engineering standard of care, not the failure to protect Cmos

from the City's negligence, is the basis for the trial court finding CH2M negligent.

C. Proximate Cause

The following principles regarding proximate cause in fact are well established: (1) the cause in fact element in a negligence action is to be determined by the trier of fact, *Schooley v. Pinch's Deli Mkt.,* 134 Wn.2d 468, 478, 951 P.2d 749 (1998); (2) there may be more than one proximate cause of an injury, *Goucher v. J.R. Simplot Co.,* 104 Wn.2d 662, 676, 709 P.2d 774 (1985); (3) if two or more entities commit independent acts of negligence which combined together result in an injury to another, they are regarded as concurrent tortfeasors, *Mason v. Bitton,* 85 Wn.2d 321, 326, 534 P.2d 1360 (1975); (4) if the negligence of one concurrent tortfeasor would not have caused an injury without the concurring negligence of another, the injured party may recover from either or both, *Estate of Keck v. Blair,* 71 Wn. App. 105, 111, 856 P.2d 740 (1993); (5) if a defendant's negligence is a proximate cause of an injury, it is not a defense that the acts of some other entity or any other occurrence or condition may have also been a proximate cause, *Brashear v. Puget Sound Power & Light Co.,* 100 Wn.2d 204, 207-8, 667 P.2d 78 (1983). CH2M's refusal to accept the application of these legal tenets permeates its proximate cause arguments. CH2M's entire causation argument is an

effort to retry its case in an appellate court.

Attacking the trial court's finding that CH2M's negligence was a cause in fact of the D3 dome collapse, CH2M argues: (1) the cause of the dome collapse was the operators' failure to stop the sludge from entering D3, rather than the operators' inability to transfer sludge out of D3; (2) no facts support the finding that the operators' inability to transfer sludge out of D3 was caused by confusion over how to valve a transfer after the skillet installation; (3) no facts support the finding that if CH2M had complied with its duty to provide a written analysis of the skillet installation the operators would have succeeded in their attempted transfer of sludge out of D3.

While overfilling D3 caused the dome collapse, there were two ways to stop the overfilling: turn off the sludge feed, or transfer sludge out of the digester. The operators selected the method that would remove the most sludge in the fastest way, a transfer using the recirculation system. RP 1558-59. Transferring using the recirculation pumps removed far more sludge from a digester than the amount of sludge feeding into the digester. RP 211-12. After checking twice and believing they had successfully valved a transfer of sludge out of D3, the operators had no reason to stop the sludge feed. RP 468-69, 921.

Substantial evidence supports the trial court's finding that the

operators were confused: none of the operators' supervisors knew the skillet installation required a change in valving for sludge transfers; (RP 2174-77) no training or revised operating procedures were provided to instruct the operators that the skillets required a change in valving transfers; (RP 578-83) in fact, the skillet installation required changed valving for transfers; (RP 193, 214-15, 635, 846, 849-50, 872-73, 903-6, 916, 956-57, 971-72, 1466-69, 1480-83, 1927, 2180) on May 10, operations crew chief Headley did not know if the skillet installation required changes in valving transfers;[14] (RP 793, 803-6) on May 10, operators Fletcher and Thain traced the digester piping and realized that the skillet installation did require changed valving to transfer sludge out of D3; (RP 850, 872-74, 903-4, 906, 913-14) none of the operators had attempted a sludge transfer out of D3 using the recirculation pumps since the skillet installation; (RP 472-77, 792-95, 830-32, Ex 24, 55) the operators closed two valves on different floors in the digester building in order to make the transfer; (RP 902-3) there was no reason to close both valves in order to make the transfer; (RP 957, 1630-32, 2180-81) even

[14] CH2M cites Headley's testimony at RP 806-7 acknowledging that the transfer was unaffected by the skillets, and Brugger admitting the same at RP 342. App. Br. p. 63. Headley very clearly testified that *on May 10*, he did not know whether the skillets would affect sludge transfers. RP 793, 803-7. Brugger, as well as all of the other plaintiff and defense engineering expert witnesses, testified that the skillet installation required a change in the method the operators customarily used to transfer sludge. RP 193, 214-15, 635, 1466-69, 1480-83, 1927, 2180.

though the operators checked their work at least twice, (RP 904, 915-16) they valved the transfer incorrectly; (RP 191, 206-7, 209, 239-40, 247-48, 414, 1449-50, 1468-69, 1937-39, 2100-1, 2122) the operators thought they had valved the transfer correctly; (RP 849-50, 873-74) three weeks after the dome collapse Irving took City employees through the digester piping gallery to show them how to properly valve sludge transfers between the two remaining digesters, and Irving provided them with a drawing showing how to valve that transfer. (RP 557-62, 568-69).[15]

Substantial evidence supports the court's finding that CH2M's failure to provide the City with a written analysis of the effects of the skillet installation was a proximate cause of the dome collapse. Operations supervisor Gavin testified that if he had been told the skillet installation would affect the valving for sludge transfers, he would have provided written information to his operators telling them the new way to transfer sludge, which would be important information to provide the operators so they would be able to transfer sludge to control the digester levels. RP 587. CH2M expert wastewater engineer Chambers testified that a written operating procedure stating the operational changes caused by the skillet

[15] The operators' confusion is not surprising. CH2M's expert wastewater treatment engineer Chambers reviewed plant blueprints and diagrams, operations manuals, Exponent's report, and depositions of the plant supervisors, operators and the parties' experts, yet still did not understand the effect of the skillets on the operators' valving for sludge transfers. RP 1907-9, Ex 596, pp. 2-3.

installation may have lessened the operators' confusion. RP 1932-33. CH2M expert wastewater engineer Anderson agreed with plaintiffs' engineering experts that if the operators had been given training and a written operating procedure after the skillet installation, they would have been able to transfer sludge out of D3 on May 10. RP 260-61, 1449-52, 2180-81, 2187. CH2M's expert wastewater engineers agreed with plaintiffs' experts that if the operators had succeeded in starting a sludge transfer out of D3 on May 10, the dome would not have collapsed. RP 189-90, 661-62, 672, 675-76, 1933, 2160-61.

Legal cause is a question of law, grounded in policy determinations as to how far the consequences of a defendant's acts should extend. *Schooley,* 134 Wn.2d at 478.[16] In *McCoy v. American Suzuki Motor Corp.,* 136 Wn.2d 350, 961 P.2d 952 (1998), the plaintiff was a rescuer who stopped to render assistance to the occupants of a Suzuki that had swerved and rolled off the highway. The plaintiff was injured by a hit-and-run driver while returning to his vehicle two hours after the original accident. The plaintiff filed a product liability claim

[16] CH2M incorrectly cites *Daugert v. Pappas,* 104 Wn.2d 254, 704 P.2d 600 (1985), in support of its claim that "our Supreme Court also has held that the 'substantial factor' test is helpful in determining legal cause...." App. Br. at 66. The Supreme Court specifically stated that its discussion of proximate cause in *Daugert* solely concerned cause in fact, *id.* at 257, and specifically held that it was inappropriate to adopt the substantial factor test. *Id.* at 262.

against Suzuki, alleging the automobile was defectively designed by virtue of its tendency to roll over. 136 Wn.2d at 359-60. The Supreme Court discussed legal causation:

> Legal cause is
>
> > not susceptible of a conclusive and fixed set of rules, readily formulated. "[Legal liability] is always to be determined on the facts of each case upon mixed considerations of logic, common sense, justice, policy, and precedent....The best use that can be made of the authorities on proximate cause is merely to furnish illustrations of situations which judicious men upon careful consideration have adjudged to be on one side of the line or the other."
>
> *King v. City of Seattle,* 84 Wn.2d 239, 250, 525 P.2d 228 (1974) (quoting 1 THOMAS ATKINS STREET, THE FOUNDATIONS OF LEGAL LIABILITY 110 (1906)).
>
> As numerous cases illustrate, the court often exercises its gatekeeper function by dismissing an action without trial for lack of legal cause if the defendant's actions are too remote a cause of plaintiff's injuries. In *Maltman* [*v. Sauer,* 84 Wn.2d 975, 530 P.2d 254 (1975)] we dismissed the action, reasoning the party causing the principal accident should not be liable for the subsequent crash of a rescue helicopter hundreds of miles away because the helicopter crash was simply too remote a result of the principal accident. In *Hartley* [*v. State,* 103 Wn.2d 768, 698 P.2d 77 (1985)] the estate of a decedent killed by a drunk driver sued the State for failing to revoke the drunk driver's license. There we similarly dismissed reasoning the State should not be held liable for injuries caused by a driver simply because the State failed to revoke that driver's license. *Hartley,* 103 Wn.2d at 785. Such fault on the State's behalf was again too remote a cause of the ensuing injury to impose liability.

136 Wn.2d at 359-60. The court found that the alleged fault of Suzuki was not so remote from the plaintiff's injuries that its liability should be cut off

as a matter of law, and would not dismiss the case for lack of legal causation. *Id.*

CH2M entered into a contract with the City to design and manage upgrades at the sewage treatment plant. CH2M had common law and contractual duties to perform its engineering services pursuant to the applicable standard of care. As a proximate result of CH2M's negligent failure to comply with its duty, City employees suffered injuries and death. There is absolutely no remoteness or attenuation between CH2M's fault and the plaintiffs' injuries, and no basis to dismiss this case for lack of legal causation.

CH2M distorts the comparative contributions of the concurrent fault of the City and CH2M, railing against this "unjust" verdict. App. Br. at 70-71. CH2M's real complaint is with Washington statutes that immunize employers from liability, RCW 51.04.010, and do not permit CH2M to apportion fault to the City. RCW 4.22.070(1). The appellate courts are not the forum to seek a redistribution of the Legislature's tort system balancing a plaintiff's right to recovery, the Department of Labor & Industries right to reimbursement, and a defendant's liability.

Plaintiffs have always acknowledged the City was negligent. RP 289, CP 5365. However, the negligence of the City, without the negligence of CH2M, would not have caused the digester dome collapse.

Rather, the negligence of the City, combined with the negligence of CH2M, resulted in Mike Cmos' death. The City and CH2M are concurrent tortfeasors.

D. Superseding Cause

CH2M argues that the conduct of the City constitutes a superseding cause, relieving CH2M from liability. Again, CH2M is attempting to retry its case. "A superseding cause is an occurrence that intervenes so as to relieve [a defendant] from liability for harm to [a plaintiff] for which [the defendant's] antecedent negligence is a substantial cause." *Travis v. Bohannon,* 128 Wn. App. 231, 241, 115 P.3d 342 (2005) (citing Restatement (Second) of Torts §440). Whether an intervening act breaks the chain of causation is a question for the trier of fact. *Davis v. Baugh Indus. Contractors,* 159 Wn.2d 413, 418, 150 P.3d 545 (2007).

In *Travis*, the court discussed superseding cause:

> If the defendant's original negligence continues and contributes to the injury, the intervening negligence of another is an additional cause. It is not a superseding cause and does not relieve the defendant of liability.
>
> The general rule is that the contributing concurrent negligence of a third person is not a defense if the defendant's negligence was an "efficient cause" without which the injury would not have occurred. *Eskildsen v. City of Seattle,* 29 Wash. 583, 586, 70 P. 64 (1902). The rule is found in *Restatement (Second) of Torts* §439: "If the effects of the actor's negligent conduct actively and continuously

> operate to bring about harm to another, the fact that the active and substantially simultaneous operation of the effects of a third person's innocent, tortious, or criminal act is also a substantial factor in bringing about the harm does not protect the actor from liability."
>
> In *Eskildsen,* for example, the city was liable for injury to a child whose foot caught in a defective railroad track in the street and the child was run over by a train. The city's negligence was a proximate cause, rendering the city liable, notwithstanding the contributing negligence of the railroad and of the child's father. *Eskildsen*, 29 Wash. 583.

128 Wn. App. at 242-243.

In *Anderson v. Dreis & Krump Mfg. Corp.,* 48 Wn. App. 432, 739 P.2d 1177, *review denied*, 109 Wn.2d 1066 (1987), the trial court entered summary judgment holding that the plaintiff's employer's modification of an industrial press was the superseding cause of Anderson's injury, thereby relieving Dreis of liability as a matter of law. The Court of Appeals reversed. The court held that only intervening acts which are not reasonably foreseeable are deemed superseding causes, and the foreseeability of an intervening act is ordinarily a question for the trier of fact. *Id.* at 442-43.[17] The court further discussed foreseeability in the context of superseding cause:

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[17] Most of the causes which CH2M claims supersede its conduct were either known or foreseeable by CH2M (RP 669-70, 1585-89, 1614-16, 1934-37, 2024-25, 2037-38, 2166) and the court so found. FOFs 64, 65,66.

> However, foreseeability is a flexible concept, and a defendant will not be relieved of responsibility simply because the exact manner in which the injury occurred could not be anticipated. *Rikstad v. Holmberg,* 76 Wn.2d 265, 269, 456 P.2d 355 (1969); *Smith v. Acme Paving Co.,* 16 Wn. App. 389, 396, 558 P.2d 811 (1976). *Rikstad,* at 269 (quoting *McLeod v. Grant Cy. Sch. Dist. 128,* 42 Wn.2d 316, 321-22, 255 P.2d 360 (1953)) provides:
>
> > It is not, however, the unusualness of the [intervening] act that resulted in injury to plaintiff that is the test of foreseeability, but whether the result of the act is within the ambit of the hazards covered by the duty imposed upon defendant.
> > ...
> > ...
> > ...It is literally true that there is no liability for damage that falls entirely outside the general threat of harm which made the conduct of the actor negligent. The sequence of events, of course, need not be foreseeable. *The manner in which the risk culminates in harm may be unusual, improbable and highly unexpectable, from the point of view of the actor at the time of his conduct. And yet, if the harm suffered falls within the general danger area, there may be liability, provided other requisites of legal causation are present.*

48 Wn. App. at 443 (Emphasis added by court).

Citing *Campbell v. ITE Imperial Corp.,* 107 Wn.2d 807, 733 P.2d 969 (1987), and *Herberg v. Swartz,* 89 Wn.2d 916, 578 P.2d 17 (1978), the court stated that Washington's Supreme Court has held that an intervening act is not a superseding cause where the intervening act (1) does not bring about a different type of harm than otherwise would have resulted from the defendant's conduct; and (2) does not operate

independently of the danger created by the defendant's conduct. 48 Wn. App. at 444. The appellate court held the employer's modification did not result in a different type of harm than otherwise would have occurred with Dreis' failure to supply guards with the press, because the harm caused by the failure to provide guards, i.e., injury to hands, remained the same. In addition, the employer's modification did not operate independently from Dreis' failure to equip the press with guards, because if guards had been present, Anderson's hand could not have entered the press regardless of the employer's modification. 48 Wn. App. at 446.

As in *Travis,* CH2M's negligence was a proximate cause without which the injury would not have occurred and constitutes a concurring, rather than superseding cause. As in *Anderson,* the City's alleged negligence did not result in a different type of harm than otherwise occurred from CH2M's failure to analyze the effect of its design change to the digester recirculation system. CH2M's negligence and the City's negligence resulted in the same type of harm, i.e., the danger of overfilling the digester with sludge causing the dome to collapse. In addition, the City's negligence did not operate independently from CH2M's failure to analyze the effects of its interim modification to the digester recirculation piping. Regardless of the City's negligence, had CH2M analyzed the effects of its modification to the recirculation system and properly advised

the City employees regarding the necessary change to valve transfers between digesters, D3 would not have been overfilled and the dome would not have collapsed.

IV. CONCLUSION

This court should affirm the trial court's judgment.

Respectfully submitted this 12 day of August, 2009.

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CERTIFICATE OF SERVICE

I hereby certify that on the 12 day of August, 2009, I caused a true and correct copy of the foregoing Brief of Respondent Cmos to be served on the following counsel of record in the manner indicated:

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